

## **DETAILED ACTION**

### ***Attempted Phone Calls for Allowance***

Although the applicant was not able to response to examiner's phone calls (Sept 15, Sept 17, and Sept 21, 2010) the proposed allowable subject matter is included at the end of this office action for the applicant's convenience and may be entered at a later time.

### ***Claim Objections***

1. Claims 60 and 61 are objected to because of the following informalities: In line 1, the claims say that they are dependent upon a method, however, claim 59 is a medium type claim. For purposes of examination, the examiner will assume the applicant intended for claims 60 and 61 to be medium type claims similar to claim 59.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 42-48 and 59-61 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, electro-magnetic signals.

In particular, the claimed computer-readable storage medium may be a signal or carrier wave. The specification states the following from the amendment made 10/6/2008, in [0013]:

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[0013] Embodiments of the invention may be implemented in hardware, firmware, software, or any combination thereof. Embodiments of the invention may also be implemented as instructions stored on a machine-readable medium, which may be read and executed by one or more processors. A machine-readable medium may include any mechanism for storing or transmitting information in a form readable by a machine (e.g., a computing device). For example, a machine-readable medium may include read only memory (ROM); random access memory (RAM); magnetic disk storage media; optical storage media; and flash memory devices; ~~electrical, optical, acoustical or other forms of propagated signals (e.g., carrier waves, infrared signals, digital signals, etc.), and others.~~

Since the previous office action was written, the office has made their standards and interpretation for computer-readable mediums more strict (please also refer to the following memo issued by the office: [http://www.uspto.gov/patents/law/notices/101\\_crm\\_20100127.pdf](http://www.uspto.gov/patents/law/notices/101_crm_20100127.pdf) ).

The office has now taken the position that a computer-readable medium described as a computer-readable storage medium is not enough to differentiate it from including signals in most cases. This is in part because the specification as quoted above gives an open definition to exactly what constitutes a computer-readable medium (CRM). While the disclosure does cancel certain examples of signals from the specification as shown above, the definition of the CRM itself is still vague and open for interpretation. For example, the disclosure states the CRM “may include” the following examples. Or the disclosure in [0013], states that “A machine-readable medium may include any mechanism for storing or transmitting information”.

One of ordinary skill in the art would reasonable interpret a computer-readable storage medium as it is known in the technology to include signals or propagated waves. The

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specification states that the CRM may be any method or technology for storing signals. This may possibly mean that a signal that travels through the air from one computer to another (i.e. a wireless transmission) technically "stores" information being sent from one machine to another. Since, the transmission "stores" data, this would show one of ordinary skill in the art that this transmission may possibly be a "computer-readable storage media".

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101. One useful and possibly helpful description of the claimed computer-readable medium is to indicate in the claim that it is a "non-transitory" type of computer readable medium.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 35, 36, 39, 42, 43, 46, 49, 50, 53, 56, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludvig et al. (US Patent 7,533,406) in view Beranek et al. (US Patent 6,226,642) in further view of Anderson et al. (US Patent 5,825,363 A).

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As per claim 35, Ludvig teaches the claimed:

35. A method, comprising:

performing the following at a computer system that is separated from a server by a network (*in figure 1 where the set-top box is a client computer system 116(1) that interacts with a server; the server modules are labeled as 102 and 106*), said computer system having the following: i) a frame buffer whose contents are to be rendered on a display of said computing system (*in figure 5, piece 540 where frame buffer is stored on client 116*);

receiving from said server a first image together with a first command to render said first image on said display (*in figure 8, piece 802; this first image is received from the server to the client, see col 15, lines 56-65; also a first image is taught in figure 3 as video plane 300 and in figure 4, as On Screen display image 400 and cursor button image 402*);

in response to said receiving, storing said first image in said buffer (*in col 13, lines 5-17 where image data used for the On Screen Display (OSD) is stored as a first image in the buffer 540 in figure 3*).

Ludvig does not explicitly teach the remaining claim limitations.

Beranek teaches the claimed:

iii) an image cache in which images for rendering on said display are locally stored on said computer system (*Figures 1 and 2A show a set-top box 102 as a client device 10; Figure 4 in this reference shows that the client contains a cache 227 and col 12, lines 18-21, "The browser is not 'aware' that the GET request has been serviced locally. The information is then displayed on the browser at step 264 and the routine terminates"*):

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receiving from said server a second image together with a second command and an index, said second command commanding said computer system to store said second image into said image cache, said index for referencing said second image within said cache (*the second command is received in client 10 from server in figure 1 issued by server applications 22 and API 23; Figure 4 also shows how commands are processed both ways from the client to the server, see pieces 223 and 225; The flowchart in figure 7, shows a process for receiving a document or document that contains an image from a server. According to the flowchart, if the image is not stored within the client and its cache, it is sent from the server to the client, see step 266; in this case, the system would have to have some type of index or identified to indentify the image in the cache in order to retrieve it at a later time*);

in response to said receiving of said second image, said second command and said index, storing said second image in said cache at a location identified by said index (*col 12, lines 31-35 "After the Web page has been modified, the modified page is preferably stored back in the cache at step 271 in order that it may be reused if and when the user desires to revisit the page at a subsequent time" and in figure 7, step 271*); and,

receiving from said server a third command together with said index, said third command commanding said computer system to retrieve said second image from said cache and render said second image on said display (*Also according to the flowchart in figure 7, if the image is needed a second time, the client is able to retrieve this image from the cache without having to re-send it again from the server, step 258; this means when a third command comes from the server to the client to execute a graphics operation, the client is able to retrieve said image from its cache*

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*without having to resend it again from the server; the third command is received in client 10 from server in figure 1 issued by server applications 22 and API 23;).*

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the cache as taught by Beranek with the teachings of Ludvig in order to speed up graphics processing and reduce network traffic.

Anderson teaches the claimed:

said computer system having the following: ii) a buffer coupled to said frame buffer (*in figure 1 where background buffer 38 is coupled to frame buffer 42*);

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize a separate background buffer as taught by Anderson with the teachings of Ludvig in order to make the buffer memory system more organized and efficient by having special memory locations designated for the background image data.

As per claim 36, Ludvig does not explicitly teach the claimed limitations.

Anderson teaches the claimed:

36. The method of claim 35 wherein said buffer is a background buffer (*in figure 1 where background buffer 38 is shown*).

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the separate background buffer as taught by Anderson with the teachings of Ludvig. The motivation of claim 35 is incorporated herein.

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As per claim 39, Ludvig does not explicitly teach the claimed limitations.

Anderson teaches the claimed:

39. The method of claim 35 wherein said method further comprises said computer system moving said first image from said buffer to said frame buffer (*in the abstract, "For a selected frame, a working frame buffer is initialized by copying background data maintained in a background frame buffer to the working frame buffer"*).

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize to move the background buffer image into the frame buffer as taught by Anderson with the teachings of Ludvig in order to processing all the graphics images together to form a composite image.

As per claims 42, 43, and 46, these claims are similar in scope to limitations recited in claims 35, 36, 39, respectively, and thus are rejected under the same rationale.

As per claims 49, 50, and 53, these claims are similar in scope to limitations recited in claims 35, 36, 39, respectively, and thus are rejected under the same rationale.

As per claim 56, the reasons and rationale for the rejection of claim 1 is incorporated herein.

Ludvig teaches the claimed:

sending to said computer system a first image together with a first command to render said first image on said display (*in figures 1 and 2 where the set-top box is a client computer system 116(1) that interacts with a server; the server modules are labeled as 102 and 106; the*

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*server sends commands through program data 108 and 231; in addition, this includes image data such as 232 which is sent from the server to the computer client; other examples of first image is 802 in figure 8; 300 in figure 3 and 402 in figure 4).*

Ludvig does not explicitly teach the remaining claim limitations.

Beranek teaches the claimed:

sending to said computer system a second image together with a second command and an index, said second command commanding said computer system to store said second image into said image cache, said index for referencing said second image within said cache (*the second command is sent from server 12 to client 10 in figure 1 by server applications 22 and API 23; Figure 4 also shows how commands are processed both ways from the client to the server, see pieces 223 and 225; the flowchart in figure 7, shows a process for receiving a document or document that contains an image from a server. According to the flowchart, if the image is not stored within the client and its cache, it is sent from the server to the client, see step 266; in this case, the system would have to have some type of index or identification marker to indentify the image in the cache in order to retrieve it at a later time*); and,

sending to said computer system a third command together with said index, said third command commanding said computer system to retrieve said second image from said cache and render said second image on said display (*Also according to the flowchart in figure 7, if the image is needed a second time, the client is able to retrieve this image from the cache without having to re-send it again from the server, step 258; the third command is sent from server 12 to client 10 in figure 1 by server applications 22 and API 23; this means when a third command*



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*comes from the server to the client to execute a graphics operation, the client is able to retrieve said image from its cache without having to resend it again from the server).*

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the cache as taught by Beranek with the teachings of Ludvig in order to speed up graphics processing and reduce network traffic. The motivation of claim 35 is incorporated herein.

As per claim 59, this claim is similar in scope to limitations recited in claim 56, and thus is rejected under the same rationale.

2. Claims 37, 38, 44, 45, 51, 52, 57, 58, 60, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludvig et al. (US Patent 7,533,406) in view Beranek et al. (US Patent 6,226,642) in further view of Anderson et al. (US Patent 5,825,363 A) in further view of Suzuki et al. (US Patent 6,331,851).

As per claim 37, Ludvig does not explicitly teach the claimed limitations.

Suzuki teaches the claimed:

37. The method of claim 36 wherein said first image and said first command are also received together with coordinates on said display where said first image is to be rendered (*in figure 1 of Suzuki where first command and first image is sent from server 51 to terminal 52; the first command is to load and display an image on displays means 16 in figure 1; in figures 3 and 4 where display coordinates are shown as X and Y coordinate positions; and index is shown in*

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*figure 9 under the "ID" field of the data structure; and index information is also shown in figures 12a-c where each image is referred to by an index, i.e. HP1 or HP2).*

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the coordinates as taught by Suzuki with the teachings of Ludvig in order to better direct the exact positioning where an image or animation display is to appear on the display screen.

As per claim 38, Ludvig does not explicitly teach the claimed limitations.

Suzuki teaches the claimed:

38. The method of claim 37 wherein said third command and index are received together with coordinates on said display where said second image is to be rendered (*in figure 1 of Suzuki where first command and first image is sent from server 51 to terminal 52; the third command is to display an animation of an image on displays means 16 in figure 1 using motion database 15; in figures 3 and 4 where display coordinates are shown as X and Y coordinate positions; and index is shown in figure 9 under the "ID" field of the data structure; and index information is also shown in figures 12a-c where each image is referred to by an index, i.e. HP1 or HP2).*

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the coordinates as taught by Suzuki with the teachings of Ludvig. The motivation of claim 37 is incorporated herein.

As per claims 44 and 45, these claims are similar in scope to limitations recited in claims 37 and 38, respectively, and thus are rejected under the same rationale.

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As per claims 51 and 52, these claims are similar in scope to limitations recited in claims 37 and 38, respectively, and thus are rejected under the same rationale.

As per claims 57 and 58, these claims are similar in scope to limitations recited in claims 37 and 38, respectively, and thus are rejected under the same rationale.

As per claims 60 and 61, these claims are similar in scope to limitations recited in claims 37 and 38, respectively, and thus are rejected under the same rationale.

3. Claims 40, 41, 47, 48, 54, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludvig et al. (US Patent 7,533,406) in view Beranek et al. (US Patent 6,226,642) in further view of Anderson et al. (US Patent 5,825,363 A) in further view of Derby et al. (US Patent 5,790,137).

As per claim 40, Ludvig does not explicitly teach the claimed limitations.

Derby teaches the claimed:

40. The method of claim 39 wherein said method further comprises said computer system moving said second image from said image cache to said frame buffer (*in figures 1 and 2 where image data is moved over bus 16 to the memory 14 which contains frame buffer 24*).

It would have been obvious to one of ordinary skill in the art at the time of invention to move image cache data to the frame buffer as taught by Derby with the teachings of Ludvig in

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order to display images on the display that are previously stored in the cache. All image data is loaded into the frame buffer 24 before being displayed.

As per claim 41, Ludvig does not explicitly teach the claimed limitations.

Derby teaches the claimed:

41. The method of claim 40 wherein said method further comprises said computer system processing said second image with a video processor after said retrieval of said second image from said cache but before said second image is moved into said frame buffer (*in figures 1 and 2 where the image data stored in cache 22 is processed by processor 12 before being transferred over bus 16 to frame buffer 24*).

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the processing before reaching the frame buffer as taught by Derby with the teachings of Ludvig in order to perform any image modification or editing from image data in the cache before displaying it on the display.

As per claims 47 and 48, these claims are similar in scope to limitations recited in claims 40 and 41, respectively, and thus are rejected under the same rationale.

As per claims 54 and 55, these claims are similar in scope to limitations recited in claims 40 and 41, respectively, and thus are rejected under the same rationale.

*Allowable Subject Matter*

The following claims drafted by the examiner and considered to distinguish patentably over the art of record in this application, these are presented to applicant for consideration:

35. (Currently Amended) A method, comprising:

performing the following at a computer system that is separated from a server by a network for remotely displaying a graphical user interface, said computer system having the following: i) a frame buffer whose contents are to be rendered on a display of said computing system; ii) a buffer coupled to said frame buffer; iii) an image cache in which images for rendering on said display are locally stored on said computer system:

receiving from said server a first image together with a first command to render said first image on said display;

in response to said receiving, storing said first image in said buffer; receiving from said server a second image together with a second command and an index, said second command commanding said computer system to store said second image into said image cache, said index for referencing said second image within said cache;

in response to said receiving of said second image, said second command and said index, storing said second image in said cache at a location identified by said index; and,

~~receiving from said server a third command together with said index, said third command commanding said computer system to retrieve said second image from said cache and render said second image on said display~~

receiving, from said server, a third command together with said index, a control flag, a

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plurality of display coordinates and a time period at said computer system from said server,  
wherein the third command is a motion vector command and said third command commanding  
said computer system to retrieve said second image from said cache without including pixel  
values generated by said computer system, directs an animation and rendering of the image  
object at the plurality of display coordinates over the received time period at a transition rate  
indicated by the control flag for the graphical user interface.

Dependent claims 36 and 37 remain unchanged.

Dependent claim 38. (Cancel) (These claim limitations are substantially already contained within the proposed amendments to independent claim 35).

Dependent claims 39-41 remain unchanged.

Independent claim 42:

Amending this claim to substantially mirror that of independent claim 35.

And in addition, on line 1:

“A non-transitory ~~tangible~~ computer readable storage medium”

Dependent claims 43 and 44:

On line 1 for each claim:

“The non-transitory ~~tangible~~ computer readable storage medium ...”

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Dependent claim 45. (Cancel) (These claim limitations are substantially already contained within the proposed amendments to independent claim 42).

Dependent claims 46-48:

On line 1 for each claim:

“The non-transitory ~~tangible~~ computer readable storage medium ...”

Independent claim 49:

Amending this claim to substantially mirror that of independent claim 35.

Dependent claims 50 and 51: Remain unchanged

Dependent claim 52. (Cancel) (These claim limitations are substantially already contained within the proposed amendments to independent claim 49).

Dependent claims 53-55: Remain unchanged

56. (Currently Amended) A method, comprising:

performing the following at a server that is separated from a computer system by a network for remotely displaying a graphical user interface on said computer system, said computer system having the following: i) a frame buffer whose contents are to be rendered on a

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display of said computing system; ii) a buffer coupled to said frame buffer; iii) an image cache in which images for rendering on said display are locally stored on said computer system:

sending to said computer system a first image together with a first command to render said first image on said display;

sending to said computer system a second image together with a second command and an index, said second command commanding said computer system to store said second image into said image cache, said index for referencing said second image within said cache; and,

~~sending to said computer system a third command together with said index, said third command commanding said computer system to retrieve said second image from said cache and render said second image on said display~~

sending to said computer system, a third command together with said index, a control flag, a plurality of display coordinates and a time period, wherein the third command is a motion vector command and said third command commanding said computer system to retrieve said second image from said cache without including pixel values generated by said computer system, directs an animation and rendering of the image object at the plurality of display coordinates over the received time period at a transition rate indicated by the control flag for the graphical user interface.

Dependent claim 57: Remains unchanged

Dependent claim 58. (Cancel) (These claim limitations are substantially already contained within the proposed amendments to independent claim 56).



Independent claim 59:

Amending this claim to substantially mirror that of independent claim 56.

And in addition, on line 1:

“A non-transitory ~~tangible~~ computer readable storage medium”

60. (Currently Amended) The non-transitory computer readable storage medium ~~method~~ of claim 59 wherein said first image and said first command are also sent together with coordinates on said display where said first image is to be rendered.

Dependent claim 61. (Cancel) (These claim limitations are substantially already contained within the proposed amendments to independent claim 60).

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL F. HAJNIK whose telephone number is (571)272-7642. The examiner can normally be reached on Mon-Fri (8:30A-5:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Daniel F Hajnik/

Primary Examiner, Art Unit 2628